September 20, 2005

Mr. David H. Meyer
Acting Deputy Director
Office of Electricity Delivery and Energy Reliability
United States Department of Energy
Washington, DC 20585

Dear Mr. Meyer:

Carolina Power & Light Company d/b/a Progress Energy Carolinas, Inc. ("PEC") and Florida Power Corporation d/b/a Progress Energy Florida ("PEF") submit their response to your letter of September 1, 2005 requesting responses to six questions concerning economic dispatch procedures to be used by the Department of Energy in developing its study on the benefits of economic dispatch in the electricity industry. Progress Energy appreciates the opportunity to provide these comments and looks forward to participating in the performance of the study.

Yours very truly,

/s/

Len S. Anthony
Deputy General Counsel-Regulatory Affairs

LSA:mhm

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Responses to the DOE questions on economic dispatch

1) What are the procedures now used in your region for economic dispatch? Who is performing the dispatch (a utility, an ISO or RTO, or other) and over how large an area (geographic scope, MW load, MW generation resources, number of retail customers within the dispatch area)?

RESPONSE: Generation dispatch consists of two main activities 1) Unit commitment and 2) economic dispatch. Progress Energy utilizes a sophisticated unit commitment program to schedule the generation resources, including power purchases, that will be needed to meet its daily load obligation. In addition, Progress uses sophisticated energy management systems to perform the economic dispatch of generation in real time. The unit commitment program models operating characteristics of each purchase and plant. (Included in the modeling of each plant are the heat rates, fuel costs, start-up costs, minimum run times, emission limits and costs, etc.) The model then produces a merit order schedule for starting up and shutting down the plants and purchases that minimizes total operating costs over the period being considered. The economic dispatch energy management systems use incremental heat rates, incremental fuel prices and emission costs to dispatch all available on-line generating resources and power purchases to achieve the lowest possible production cost. This method of Economic Dispatch is described in the definitive textbook for power system operations "Economics of Electric Utility Power Generation by W. D. Marsh" and results in the lowest possible cost of energy for customers. After this "pure" economic dispatch is developed, reliability and other constraints are incorporated into the dispatch. If reliability or any other constraints are violated, the economic dispatch is modified such that all constraints are satisfied at the minimum increase in cost. This modified economic dispatch process is typically referred to as "constrained economic dispatch" or "security constrained economic dispatch" and is what is used in the actual dispatch of the Progress systems.

In addition, both PEC and PEF are subject to annual fuel cost recovery proceedings during which the North Carolina Utilities Commission, the Public Service Commission of South Carolina and the Florida Public Service Commission determine whether the utilities have taken all reasonable steps to minimize their fuel costs. One issue considered by the State Commissions in making this determination is whether the utilities dispatched their systems in the most economical manner reasonably possible giving due regard to reliability (including making power purchases to displace utility-owned generation) during the period under review.

Key statistics for our service territories include the following:

Progress Energy Carolinas performs economic dispatch from a central control center in Raleigh, North Carolina for its control areas which comprise much of the eastern half of the state of North Carolina, several counties around the city of

Asheville, NC, much of the northeast corner of South Carolina.

Progress Energy Florida performs economic dispatch from a central control area in St. Petersburg, Florida for its control area which comprises portions of western, central and northern Florida including the cities of St. Petersburg and Clearwater, as well as the area surrounding Orlando.

- Geographic scope
  - 20, 000+ square miles in Florida
  - 34,000+ square miles in the Carolinas
  - 54,000+ square miles
- MW load
  - 12,500 MW in the Carolinas
  - 10,131 MW in Florida
- MW generation
  - 13,407 MW in the Carolinas
  - 8,864 Mw in Florida
- Number of retail customers
  - 1.4 million in the Carolinas
  - 1.5 million in Florida

2) Is the Act's definition of economic dispatch (see above) appropriate? Over what geographic scale or area should economic dispatch be practiced? Besides cost and reliability, are there any other factors or considerations that should be considered in economic dispatch, and why?

RESPONSE: The definition of economic dispatch is appropriate for indicating the desired outcome. However, as written it more accurately describes what is typically referred to as security constrained economic dispatch. The control area is the appropriate geographic area over which economic dispatch should be conducted. Costs and reliability are the primary considerations for economic dispatch; however "economic dispatch" must also consider environmental

constraints, fuel inventory or delivery constraints, purchase and sales opportunities, low load stability risk, ramp requirements, weather conditions (such as approaching hurricanes or tornado threats) and conditions at a plant that might increase the risk of a unit trip (such as a recent return from a major overhaul or a boiler tube leak). These and other factors must be accounted for by the System Operator and can affect the economic dispatch.

3) Do procedures differ for different classes of generation, including utility-owned versus non-utility generation? Do actual operational practices differ from the formal procedures required under tariff or federal or state rules, or from the economic dispatch definition above? If there is a difference, please indicate what the difference is, how often this occurs, and its impacts upon non-utility generation and upon retail electricity users. If you have specific analyses or studies that document your position, please provide them.

RESPONSE: There are no basic differences in classes of generation for either utility or non-utility owned generation with the exception of PURPA required "must purchase" generation. These PURPA units are included in the economic dispatch in accordance with their PURPA requirements and contract conditions rather than on economic merit order. With some limited exceptions, utilities are obligated to purchase all of the energy delivered by these units rather than according to economic dispatch. These administratively developed costs often differ significantly from the real time energy costs used in the economic dispatch of other generation. With the exception of these PURPA generators, all utility-owned generators, non-utility generation under contract with the utility, and all resources purchased by the utility are dispatched to minimize the total system production cost within contractual and operational limitations that exist.

4) What changes in economic dispatch procedures would lead to more non-utility generator dispatch? If you think that changes are needed to current economic dispatch procedures in your area to better enable economic dispatch participation by non-utility generators, please explain the changes you recommend.

RESPONSE: No changes in current economic dispatch procedures by Progress are needed or appropriate. As discussed in response to question 3, all generation resources are economically dispatched to minimize the total system production cost. Purchase and sales opportunities are continually evaluated (in accordance with the provisions of each utility's OATT and wholesale rates as approved by FERC) for potential savings and any lower cost resources available are included in the economic dispatch. As a result, the Progress systems are already dispatched in the most economical manner consistent with maintaining reliability and other constraints (such as emissions limitations). Any mandated change in the current method of economic dispatch procedures would lead to higher customer energy costs, consumption of more expensive fuels, and potentially reduced reliability and greater emissions.

5) If economic dispatch causes greater dispatch and use of non-utility generation, what effects might this have – on the grid, on the mix of energy and capacity available to retail customers, to energy prices and costs, to environmental emissions, or other impacts? How would this affect retail customers in particular states or nationwide? If you have specific analyses to support your position, please provide them to us.

RESPONSE: In addition to the information provided in response to Item 3 and 4, it is important to emphasize that Progress considers all resources over which it has dispatch control when performing security constrained economic dispatch. Any IPP can be included in performing the economic dispatch function, provided the IPP: grants Progress the authority to dispatch the IPP's resource; and provides sufficient price/cost data to run the models and determine the least cost dispatch order. In addition Progress wishes to emphasize that it has hourly traders reviewing the market 24 hours a day 7 days a week for purchases to displace higher cost utility resources. The end result of this process is no different from that employed in Regional Transmission Organizations.

6) Could there be any implications for grid reliability – positive or negative – from greater use of economic dispatch? If so, how should economic dispatch be modified or enhanced to protect reliability?

RESPONSE: Progress already uses security constrained economic dispatch as discussed in response to the previous questions. It is therefore difficult to understand how there could be "greater use of economic dispatch". If "must take" PURPA purchases could instead be economically dispatched based on their actual costs, this might constitute greater use of economic dispatch but as it is PURPA "must take" requirements result in dispatch out of merit order.

Use of "pure" economic dispatch without recognition of constraints such as reliability, environmental cost and emission limitations, could result in higher customer energy costs, consumption of more expensive fuels, reduced reliability or greater emissions. As explained above, in order to protect reliability, after a "pure" economic dispatch is developed, reliability and other constraints must be incorporated in the actual dispatch such that all criteria are satisfied at the minimum increase in cost.